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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,830	08/06/2003	Koichi Sakita	121.1053	8613
21171	7590	08/24/2004	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			A, MINH D	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/634,830

Applicant(s)

SAKITA, KOICHI *AK*

Examiner

Minh D A

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/27/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-4, 13-14 are rejected under 35 U.S.C. 102(b) as being unpatentable by Lim et al (US 2003/0006945).

Regarding claim 1, Lim discloses a method of driving a plasma display panel including a plurality of Y electrodes arranged on a base plate, a plurality of X electrodes arranged between the plurality of Y electrodes, and a plurality of address electrodes crossing the X and Y electrodes (see figure 3), comprising the steps of: Reset period for generating initializing discharges with at least one ramp waveform of voltage applied between the X electrodes and Y electrodes during an initializing period; address period for generating addressing discharges between the Y electrodes and the address electrodes during an addressing period; and sustain period for generating sustaining

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discharges between the X electrodes and Y electrodes during a sustaining period, said initializing period, said addressing period and said sustaining period being cyclically recurred, wherein the voltage of a driving waveform for each electrode satisfies the following relational expression: $2V_{TAY} - V_{TX} \leq 2V_{AY} - V_{XY} - 2V_{AOFF}$ (see figures 7-12) wherein V_{TAY} denotes a discharge starting threshold voltage between the address electrodes and Y electrodes, and V_{TX} denotes a discharge starting threshold voltage between the X electrodes and Y electrodes, respectively, when the Y electrodes serve as cathodes, wherein V_{AY} denotes a voltage applied between the address electrodes and the Y electrodes, and V_{XY} denotes a voltage applied between the X electrodes and the Y electrodes, respectively, at the trailing edge of the ramp waveform at the end of the initializing period, and wherein V_{AOFF} denotes an offset voltage of the voltage applied between the address electrodes and Y electrodes at the end of sustaining period. See figures 3-12, col.1, lines [0009]-lines [0014] to col.9, lines [0168]-lines [0172].

Regarding claim 2, Lim discloses wherein, when a driving waveform having two or more types of offset voltages V_{AOFF} is used in the sustaining period, the plasma display panel is driven by setting the voltage of the driving waveform so as to satisfy the relational expression at the end of the sustaining period. See figures 3-12.

Regarding claim 3, Lim discloses wherein, when a driving waveform having an alternating voltage with two or more types of amplitudes is used as a driving waveform to be applied between the address electrodes and the Y electrodes in the sustaining period, the plasma display panel is driven by setting the voltage of the driving waveform

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so as to satisfy the relational expression at the end of the sustaining period, col.1, lines [0009]-lines [0014] to col.9, lines [0168]-lines [0172].

Regarding claim 4, Lim inherently discloses wherein, when the address electrodes serve as a cathode, V_{TXA} denotes a discharge starting threshold voltage between the X electrodes and the address electrodes, and V_{tYA} denotes discharge starting threshold voltage between the Y electrodes and the address electrodes, when the X electrodes serve as a cathode, V_{tAX} denotes a discharge starting threshold voltage between the address electrodes and the X electrodes, and V_{tYX} denotes a discharge starting threshold voltage between the Y electrodes and the X electrodes, and the plasma display panel arranged to satisfy the following relational expression is used: $V_{tAY} + V_{tXA} - V_{tXY} > 0$ or $V_{utYA} + V_{tAX} - V_{tXY} > 0$. See figures 7-12, the ramp waveform. See figures 7-12.

Regarding claim 13, Lim discloses wherein the ramp waveform applied to at least one type of the X electrodes and the Y electrodes includes a first ramp wave having a positive ramp and a second ramp wave having a negative ramp. See figures 7-12.

Regarding claim 14, Lim discloses wherein, in the initializing period, a waveform including the first ramp wave and the second ramp wave is applied to the Y electrodes, and a constant voltage of opposite polarity corresponding to the first ramp wave and the second ramp wave is applied to the X electrodes. See figures 7-12.

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3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 5-12 and 15 are rejected under 35 U.S.C. 102(b) as being unpatentable by Kang et al (US 6,653,795).

Regarding claim 5, Kang discloses a method and apparatus for driving plasma display panel using selective writing and selective erasure including a plurality of Y electrodes arranged on a base plate, a plurality of X electrodes arranged between the plurality of Y electrodes, and a plurality of a electrodes crossing the X and Y electrodes, (See figures 5-13), the method providing a recurring cycle of an initializing period, an addressing period, and a sustaining period, the method comprising: applying a ramp waveform in the initializing period, wherein a sustaining pulse applied in the sustaining period to each of the X electrodes and the Y electrodes includes an alternating pulse oscillating between both sides of a predetermined reference voltage at least in the beginning portion of the sustaining period and a pulse of positive voltage based on the reference potential at the end of the sustaining period. See figures 5-13, col.7, lines 55-67 to col.34, lines 1-40.

Regarding claim 6, Kang discloses a plurality of Y electrodes arranged on a base plate, a plurality of X electrodes arranged between the plurality of Y electrodes, and a plurality of address electrodes crossing the X and Y electrodes (See figure 13), the method providing an initializing period, an addressing period and a sustaining period

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being cyclically recurred, the method comprising: applying a ramp waveform in the initializing period, wherein a waveform applied to the address electrodes in the sustaining period includes a constant voltage waveform of negative voltage based on a predetermined reference potential, which is applied at least at the end of the sustaining period. See figures 5-13, col.7, lines 55-67 to col.34, lines 1-40.

Regarding claim 7, Kang discloses wherein the waveform applied to the address electrodes is a constant voltage waveform of negative voltage based on the predetermined reference potential, which is applied during the entire sustaining period. See figures 5-12.

Regarding claim 8, Kang discloses wherein the waveform applied to the address electrodes includes a constant voltage waveform set at the level of the predetermined reference potential at least in the beginning portion of the sustaining period and a constant voltage waveform of negative voltage based on the reference potential, which is applied at the end of the sustaining period. See col.7, lines 55-67 to col.34, lines 1-40.

Regarding claim 9, Kang discloses the reference potential is regarded as at a ground level, and a sustaining pulse applied to each of the X electrodes and the Y electrodes in the sustaining period is an alternating pulse oscillating between both sides of the ground level. See figures 7-12.

Regarding claim 10, Kang discloses wherein the reference potential is regarded as at a ground level, and a sustaining pulse applied to each of the X electrodes and the

Y electrodes in the sustaining period is an alternating pulse of positive voltage based on the ground level. See figures 7-12.

Regarding claim 11, Kang discloses a plurality of Y electrodes arranged on a base plate, a plurality of X electrodes arranged between the Y electrodes, and a plurality of address electrodes crossing the X and Y electrodes (figure 13), the method providing an initializing period, an addressing period and a sustaining period being cyclically recurred, the method comprising: applying a ramp waveform in the initializing period, wherein a waveform applied to the address electrodes in the sustaining period includes a constant voltage waveform of positive voltage based on a predetermined reference potential at least in the beginning portion of the sustaining period and a constant voltage waveform at the level of the reference potential at the end of the sustaining period.

Regarding claim 12, Kang discloses a method of driving a plasma display panel including a plurality of Y electrodes arranged on a base plate, a plurality of X electrodes arranged between the Y electrodes, and a plurality of address electrodes crossing the X and Y electrodes, the method providing an initializing period, an addressing period and a sustaining period being cyclically recurred, the method comprising: applying a ramp waveform in the initializing period, wherein a waveform applied to the address electrodes in the initializing period includes a constant voltage waveform of positive voltage based on a predetermined reference potential at the end of the initializing period. See figures 5-13, col.7, lines 55-67 to col.34, lines 1-40.

Regarding claim 15, Kang discloses a plurality of Y electrodes arranged on a base plate, a plurality of X electrodes arranged between the Y electrodes, and a plurality of address electrodes crossing the X and Y electrodes (13), the method providing an initializing period, an addressing period and a sustaining period being cyclically recurred, the method comprising: applying a ramp waveform in the initializing period, wherein at least one of a voltage between the address electrodes and the Y electrodes at the end of the initializing period, a voltage between the X electrodes and the Y electrodes at the end of the initializing period, and an offset voltage of a voltage applied between the address electrodes and the Y electrodes at the end of the sustaining period is set at a predetermined level, and two types of discharges including a discharge between the X electrodes and the Y electrodes and a discharge between the address electrodes and the Y electrodes are caused at the end of the initializing period. See figures 5-13, col.7, lines 55-67 to col.34, lines 1-40.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hibino et al (US 6,738,033) and Okada.(US 6,476,561) are cited to show a display device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Minh A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 –2:30 PM).

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone numbers for

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the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and (703) 872-9319 for final communications.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (571) 272-1553.

Examiner

Minh A

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8/16/04


Don Wong
Supervisory Patent Examiner
Technology Center 2802